

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/07882

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B01J 8/04  
 US CL : 48/127.9, 198.7; 422/191, 198, 211, 222

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 48/127.9, 198.7; 422/191, 198, 211, 222

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,180,561 A (MORISHIMA et al.) 19 January 1993 (19.01.1993)	1-18
A	US 5,270,127 A (KOGA et al.) 14 December 1993 (14.12.1993)	1-18
A	US 5,348,814 A (NIIKURA et al.) 20 September 1994 (20.09.1994)	1-18
A	US 5,609,834 A (HAMADA et al.) 11 March 1997 (11.03.1997)	1-18

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	
"A"	document defining the general state of the art which is not considered to be of particular relevance
"E"	earlier application or patent published on or after the international filing date
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
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"P"	document published prior to the international filing date but later than the priority date claimed
"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"&"	document member of the same patent family

Date of the actual completion of the international search

23 June 2005 (23.06.2005)

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